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BA WTR
WR ND
Mail Stop 60189

MAY 0 8 1995

Memorandum

To: Assistant Regional Director, Refuges and Wildlife
Attention: Ron Shupe

From: Chief, Division of Water Resources, Region 6

Subject: 1994-1995 Annual Water Use Report/Management Plan

The subject report for Tewaukon National Wildlife Refuge has been reviewed and approved as submitted. We revised the Water Use Report/Management Plan Short Form in 1994 for Elsie and Storm Lake and are forwarding to the Refuge via ccmail for future use.

Please extend our thanks to Refuge personnel for the timely submission of this report.

/S/ CHERYL C. WILLISS

bcc: WR rf
RO rf
WTR:LCoe:lc:2/22/95

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Tewaukon National Wildlife Refuge Complex
9754 143½ Ave SE
Cayuga, ND 58013-9764

MEMORANDUM February 10, 1995

To: R&W, Associate Manager ND (60130 Ron Shupe
Denver, CO

From: Refuge Manager, Tewaukon NWR Complex (62660)
Cayuga, ND

Subject: 1995 Annual Water Management Plan and 1994 Use Report

1. List of Water Rights

Declaration of Filing dated September 1, 1934, for Lake Tewaukon and East and West White Lake (including Cutler Marsh), 7,198 acre-feet storage, 4,251 acre-feet seasonal from Wild Rice River.

Declaration of Filing dated September 1, 1934 claimed 397 acre-feet storage and 312 acre-feet seasonal use for Clouds Lake (Pool 8) now called Hepi Lake. Listed on the same sheet as Lake Tewaukon/White Lake, as per RO(EN) Marshall Fox's 11-14-83 memo. Water use in pools 5 through 10 is covered under this right, with Hepi Lake to be drawn down to fill these pools.

Permit #1261: 4852 acre-feet storage and 2287 acre-feet seasonal use, for a total of 7139 acre-feet. This permit covers additional storage and seasonal use in Lake Tewaukon, Cutlers Marsh and West White Lake; 409 acre-feet seasonal use to replace water to be diverted from the watershed by Sargent County Water Conservation District project; and total storage and seasonal use for Pools 3 and 4. Priority date December 28, 1964.

Tewaukon NWR #1262: 1,130 acre-feet yearly (635 acre-feet storage and 495 acre-feet seasonal use) for Sprague Lake, dated December 28, 1964, diversion from an unnamed creek in the SE1/4NW1/4, Section 2.

Tewaukon NWR #1263: 686 acre-feet yearly for Mann Lake (236 acre-feet) and Horseshoe Slough (450 acre-feet) dated December 28, 1964, diversion from the Wild Rice River.

Tewaukon NWR #3816 Nickeson Tract: 571 acre-feet (474 acre-feet storage, 97 acre-feet annual use) for the Nickeson Bottoms, a tract

jointly owned by the ND Game and Fish Department, US Bureau of Reclamation and USFWS. Diversion is from the Wild Rice River, W 1/2 Section 27, T. 130 N., LTL, R. 54 W. Priority date August 15, 1985.

2. Water Use - 1994

The Wild Rice River, LaBelle Creek, Frenier Dam Outlet and Sprague Lake Creek flowed well above average this year, exceeding management levels in all wetlands. The Wild Rice River continued a steady flow the entire year. It is believed that the cleaning of the Crete-Cogswell drain in 1984-85 plus over 111" of snow caused this increased flow in the Wild Rice River. Most wetlands on the Refuge were filled by the above normal runoff, and they held water into freeze-up.

Pool 1 (Lake Tewaukon): The lake was frozen at 1148.06 (1148.0 is full pool. Inflow began on March 1, and rapid runoff from LaBelle Creek caused the spillway at the east end of Lake Tewaukon to be overtopped by about 1 foot. On March 24, outflow peaked at 1149.66 and a full pool was maintained.

Parker Bay (east end of Lake Tewaukon): Inflow from LaBelle Creek was diverted into Parker's Bay to raise the water level to benefit waterfowl, and to take pressure off the East Dike of Lake Tewaukon. Maximum depth for Parker Bay was about 4 feet this year.

Pool 2 (Cutler Marsh): This pool filled rapidly due to flooding receiving runoff from the Wild Rice River and West White Lake. It reached 1152.89 on March 22, 1994. Additional stoplogs were removed on August 26 for carp management purposes. At freeze-up the level of this pool was 1148.42.

Pool 2A: Pool 2a was drained on April 11, because high water was causing significant erosion damage to the dike.

Pool 3 (Maka Pool): Pool 3 peaked at 1157.75 on March 19. We attempted to hold this pool at 1155.5. Due to erosion problems on Mud Lake DU cross dike and to facilitate drawing down Nickeson Bottoms to a depth of 6 feet, stoplogs were removed on August 26. At freeze-up the level of this pool was 1153.60.

Pool 3A: This pool is filled to the same level as Pool 3 and remained that way all year.

Pool 4 (River Pool): This pool remained about the same level the entire year peaking at 1161.78 on March 19. Maintained an operating level of 1160 until freeze up at 1160.2.

Pools 5, 5A, 6, 7, 7A: All pools started dry but rapidly filled during the rapid runoff. High water washed out Pool 5 water control structure, and it was therefor dry. All remaining pools were full throughout the year.

Pool 8 (Hepi Lake): A maximum depth of 7 feet was reached on March 19, and the desired management level of about 2.5 feet was obtained by pushing water into Pool 7a. Freeze-up was at 6.0 feet deep.

Pool 9: Natural run off allowed this pool to be maintained at approximately 4 feet deep.

Pool 10: This pool was over-topped and reached a depth of approximately 8 feet in March. Draw-down operation lowered the pool to 3 feet by August 1.

Pool 11 (West White Lake): Again this year this unit was full and peaked at 1152.0 on March 29. Despite releasing into East White Lake for several days, County Road 5 was flooded until first part of June. Freeze-up was at 1149.40.

Pool 12 (East White Lake): Waterfowl loafing and brood use were excellent this year, however, record snow fall and pumping from Pool 11 caused us to have 9 feet of water at freeze-up.

Pool 13 (Mann Lake): This pool contained 4 to 6 feet of water at freeze-up and was heavily used by ducks all year.

Pool 14 (Sprague Lake): Reached maximum depth of 12.14 on March 22. Reached operating level of 8/9 feet on June 1.

Pool 16 (Horseshoe Slough Group): Thanks to the heavy snowfall, local runoff filled this group of 8 wetlands (244 wet acres) completely. All pools provided excellent waterfowl habitat.

3. Impoundment Data

Please see the attached chart for capacities for each pool at various elevations. No formal inflow/outflow records were maintained. Please see Section #2 above for elevation changes for the various pools.

4. 1995 Plans

Pool 1 (Lake Tewaukon): Maintain 1148.0 MSL to allow flow into adjacent wetlands on the Krause WPA, Tewaukon WMA and the Refuge. Also this elevation will help to maintain the sport fishery habitat.

Parker Bay (east end of Lake Tewaukon): Maintain a maximum of four feet as early as possible in the spring before duck nesting occurs. Maintain a 2½-3 foot depth for waterfowl production by adding water as needed in late spring and summer.

Pool 2 (Cutler Marsh): Try and maintain the pool at 1152.0 MSL to flood dense cattails in the west end without killing vegetation in the lower end. Small amounts of water will be released in May-August to help facilitate shorebird use.

Pool 3 (Maka Pool): Maintain pool at 1155.5 and stabilize as quickly as possible before over-water duck nesting is initiated. If needed, supply water to Pools 2A and 3A. Hold water at maximum depth to slow cattail invasion.

Nickeson Bottoms: Maintain a depth of approximately 4 feet as early as possible in the spring before duck nesting occurs. Maintain a 2½-3 foot depth for waterfowl production and to encourage establishment of a muskrat population. Muskrats will further aid in cattail control and their lodges will provide waterfowl nesting and loafing sites.

Pool 4 (River Pool): Maintain approximately 1160 MSL for duck nesting, especially over-water nesting, and stabilize as quick as possible before April 15. Maintain muskrat populations by keeping this pool at this elevation.

Pools 2A, 3A, 5, 5A, 6, 7, 7A: If possible, fill to maximum depth to flood cattails. The pools will dry out rapidly through an average summer due to evaporation.

Pool 8 (Hepi Lake): Initially 5-6 feet of water may be needed to supply Pools 7A, 7, 6, 5A, 5, 3A, and 2A downstream. Draw the pool down to 3 feet as soon as possible to maintain cattail and bulrush stands.

Pool 9: If possible keep water out of this pool and allow it to dry up. Drying will allow some cattails to reestablish.

Pool 10: Allow this pool to fill naturally or open the supply ditch control and flood to a maximum of 2½ feet. This wetland should be maintained at this level; over-filling would probably flood out the excellent stand of bulrush. It should be allowed to go dry by late August to maintain its highest use as a semi-permanent wetland.

Pool 11 (West White Lake): Maintain depth at 4-4½ feet to slow cattail invasion. If necessary pump water to Pool 12 to keep from flooding County Road 5.

Pool 12 (East White Lake): Add no water to this pool unless there is a need to pump water from Pool 11 to protect County Road #5 Allow gradual drying to reestablish cattails.

Pool 13 (Mann Lake): Add no water to this pool at 4-6 feet deep. We are above optimum operating level.

Pool 14 (Sprague Lake): Maintain maximum pool, about 8½ to 9 feet in order to maintain the sport fishery.

Pool 16 (Horseshoe Slough): Gravity flow water from the Wild Rice River to fill all pools. Pool A should attain the level of 1207.5 MSL and all others about 1206 MSL.

5. Location Map

Please see Section #2 for the revised Refuge Map on which all management pools are marked.

Fred G. Giese

Fred G. Giese

Attachments

TEWAUKON NATIONAL WILDLIFE REFUGE 12/12/85
Pools, Elevations and Acres

Pool 1 - Tewaukon	1149	1015
- Parker's Bay	1149	95
Pool 2 - Cutler's Marsh	1152	246
Pool 2A		30
Pool 3 - Maka Pool	1156	125
Pool 3A		18
Pool 4 - River Pool	1159	108
Pool 5	1160	6
Pool 5A		5
Pool 6	1165	6
Pool 7	1178	21
Pool 7A		106
Pool 8 - Hepi Lake	1179	106
Pool 9	1167	10
Pool 10	1173	5.5
Pool 11 - W. White Lake	1151	80
Pool 12 - E. White Lake	1147	103
Pool 13 - Mann Lake	1207	57
Pool 14 - Sprague Lake	1209	186
Pool 16 - Horseshoe Slough		244
Pool 1	1210	119.7
Pool 2	1206	42.5
Pool 3	1206	10.3
Pool 4	1206	30.3+
Pool 5	1206	24.5
Pool 6	1206	2.8+
Pool 7	1206	14.5

WATER USE REPORT/
MANAGEMENT PLAN
SHORT FORM

Lake Elsie NWR, Richland County
Station Name

Summer, 1994 (date not recorded)
Date Of Inspection

Declaration of Filing: 8/30/37
Water Right No.

Considerable local runoff, at least two drainage ditches springs
Source(s)

Several
(522 acre-feet storage)
(900 acre-feet seasonal)
Water Diverted: Yes___ No_X_

Means of Diversion None
Rate

*Impoundment(s): Yes___ No_X_

Water Level 522 acre-feet
(Elevation or Est. Storage Amount)

*Well(s):
Free Flowing none-known gpm
Pumped_____ gpm

Type of Use:
Surface Irrigation_____
(Crop)_____
Fish & Wildlife XX
Stock_____
Domestic_____
Other high public use: swimming water skiing, fishing

Over Climatic Conditions: 1993 was wet. Lake was full.

Condition of Facilities: No facilities present.

Proposed Water Program: None, no water management capability is present. At maximum the lake spills north through a (damaged) culvert.

Comments: The lake is an extremely popular summer recreational area. The Richland County Commissioners, Richland County Wildlife Club and the North Dakota Game and Fish are looking at a project that would include raising the bridge and county road, provide a fishing bridge, build a carp trapping area and the possibility of a walleye rearing pond.

Fred G. Giese 2/15/95
Fred G. Giese, Refuge Manager Date

*If more than one impoundment or well, please attach additional sheet.

WATER USE REPORT/
MANAGEMENT PLAN
SHORT FORM

Storm Lake NWR, Sargent County
Station Name

Summer, 1994
Date Of Inspection

Declaration of Filing: 8/30/37
Water Right No.

Drainage ditch (legal)
Source(s)

Several
(522 acre-feet storage)
(900 acre-feet seasonal)
Water Diverted: Yes_____ No__X__

Means of Diversion Uncontrolled
Rate Unknown

Water Level est 654 acre-feet
(Elevation or Est. Storage Amount)

*Impoundment(s): Yes_____ No__X__

Type of Use:
Surface Irrigation_____
(Crop)_____
Fish & Wildlife X Virtually no
Stock_____ public use
Domestic_____
Other_____

*Well(s):
Free Flowing none gpm
Pumped_____ gpm

Over Climatic Conditions: 1993 was wet.

Condition of Facilities: A diversion dam at the head of the feed ditch serving Storm Lake washed out well before 1976. Apparently someone decided it wasn't worth repairing.

Proposed Water Program: No water management capability is present. Water runs down the ditch into the lake to an unknown degree each spring. Water did fill Storm Lake in 1993.

Comments: The lake serves as an excellent waterfowl loafing sanctuary with good use by snow geese, canvasbacks, redheads, lesser scaup, and tundra swans. Water levels fluctuate on their own. If active management was initiated, some degree of improvement might be gained by a cycle of drawdown management. It is questionable if the benefits would be worth the costs for Storm Lake alone. However, when you look at the other three wetlands to the south we should continue to work with Ducks Unlimited and put the Mini Joint Venture back on tract. The Golf Course Association of Milnor has been very quiet in their request to use lake water to irrigate portions of the Storm Lake Golf course. The Association was granted a conditional water right, junior to that of the FWS. The Golf Course Association is now looking into doing some new landscaping and has contacted us about the possibility of doing some cosmetic changes on the feeder ditch.

Fred G. Giese 7/15/95
Fred G. Giese, Refuge Manager Date

*If more than one impoundment or well, please attach additional sheet.